



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3407-047
Job Sheet 166012



Part No: D3407-047

Job Qty: 2 ea

Part Name: Tow Ring



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/8/17

Job Tracking No:

Due Date: 11/8/17

Created By: Linda Lacelle

Type: Stock

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	2 Ea		11/7/17	0.00	0.00	Start Up Large Fab1		
120	QC	2 pcs		11/7/17	0.00	0.00	QC5		
150	Packaging	2 pcs		11/8/17	0.00	0.00	Packaging3		5/17/11/09
160	QC21-SA	2 Ea		11/8/17	0.00	0.00	QC21		

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D3407-047 B166012	2	2	0	0

Part Specifications

Specifications could not be found.

Plex 11/8/17 8:46 AM dart.lacelle.linda

5007653

Work Order ID 166012

166012

PRELIMINARY ISSUE

Page 1

Thursday, September 07, 2017 1:49:13 PM

Item ID: D3407-047

Accept

N9000040100

Setup Start *NS1*

Revision ID: PRELIM

Stop *NS2*

Item Name: Tow Ring

Start Date: 9/7/2017 Start Qty: 2.00

2

Cust Item ID:

Required Date: 9/11/2017 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: DAS 21 Date: SEP 07 2017
 QC: 9-89 Date: SEP 07 2017

Tooling:

Date:

Run Start *NR1*

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3407

F-PRELIM

100

Weld per dwg A/R 17-4ph Batch:

0.00

100

Large Fab

Large Fab

Memo

0.36

Large Fab

Weld D3407-9/-5 using welding rod TIG174 as per Dwg D3407 & QSI 004
 A/R TIG174 ROD Batch: 102576

110

QC9- Inspect visual per QSI004- Fusion Welds

0.00

110

QC

Memo

0.04

Quality Control

120

QC5- Inspect part completeness to step on W/O

0.00

120

QC

Memo

0.04

Quality Control

17-09-12
JBC

2 17-09-12

② 17-09-13 PD

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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Work Order ID 166012

Thursday, September 07, 2017 1:49:13 PM

166012

Page 2

Item ID: D3407-047 Accept ***N9000040100*** Setup Start ***NS1***
Revision ID: PRELIM Stop ***NS2***
Item Name: Tow Ring
Start Date: 9/7/2017 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 9/11/2017 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.2) per OSI005 4.3-Steel <i>M 13 8 014</i>	0.00							
	Memo **Mask Threaded Section** START TIME: <i>11:00</i> OVEN TEMPERATURE: <i>400°</i> FINISH TIME: <i>11:30</i>	0.08							
140 *140* QC Quality Control	QC3- Inspect Part Finish	0.00							
	Memo	0.04							
150 *150* Packaging Packaging	Identify as per dwg & Stock Location:	0.00							
	Memo	0.20							

2 φ 17-09-13 *DAS* *9-88*

2x *17/09/13*

Df
DAS
38-88
9-88



DQA: _____ Date: _____

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Picklist Print

Page 1

Thursday, September 07, 2017 1:49:16 PM

Work Order ID: 166012

166012

Parent Item: D3407-047

D3407-047

Parent Item Name: Tow Ring

Start Date: 9/7/2017

Required Date: 9/11/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 17.09.07 NEW ISSUE DD VERF:DP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D3407-5		Manufactured	No			100	Each	8.0000	1	2			
D3407-5									**			17-09-12	mm
Ring													

Location	Loc Qty	Loc Code
WA002	8	
164240	8	

D3407-9		Manufactured	No			100	Each	0.0000	1	2			
D3407-9									**			17-09-12	JBL
Stem													

1011

166014

2

DQA: _____ Date: _____



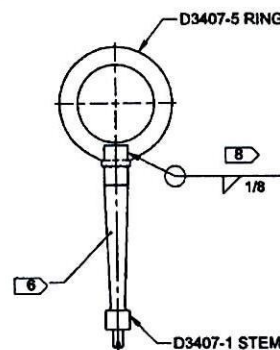
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

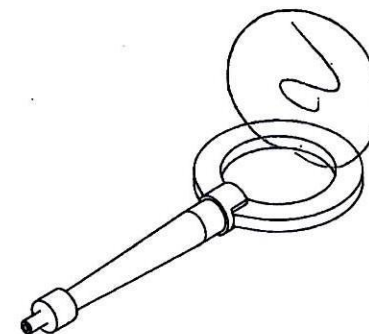
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																						
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																						
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																						
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																						
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																						
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																						
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																						
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																						
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																						
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																						
OTHER : _____																																																																									

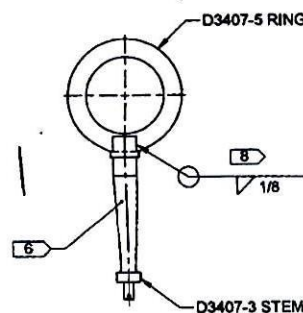
QTY -041	QTY -043	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
X				D3407-041	TOW RING
	X			D3407-043	TOW RING
		X		D3407-045	TOW RING
			X	D3407-047	TOW RING
1				D3407-1	STEM
	1			D3407-3	STEM
1	1	1	1	D3407-5	RING
		1		D3407-7	STEM
			1	D3407-9	STEM



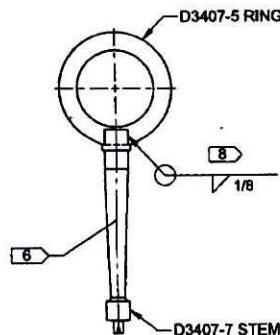
D3407-041 TOW RING



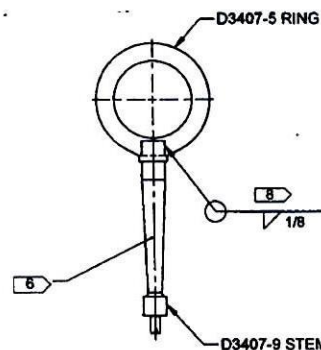
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RETURN TO
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WORK ORDER
NO. 166012MLJ
1709-07



D3407-043 TOW RING



D3407-045 TOW RING



D3407-047 TOW RING

NOTES:

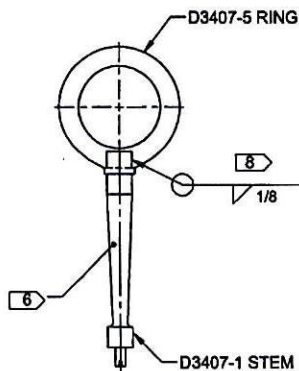
- 1) MATERIAL: N/A
- 2) FINISH: MASK THREADS PRIOR TO POWDER COAT
POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044, 6.1
- 7) WEIGHT: D3407-041 - 0.60 lbs, D3407-043 - 0.53 lbs, D3407-045 - 0.61 lbs, D3407-047 - 0.58 lbs
- 8) WELD PER DART QSI 004 ON ALL EDGES BETWEEN STEM AND RING

PRELIMINARY ISSUE

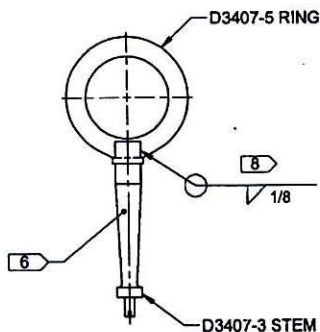
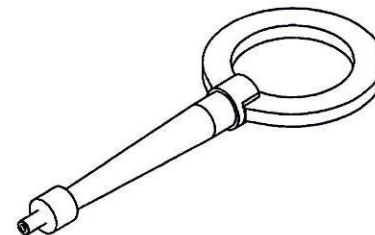
F	ADD D3407-047 (ZN B8-2, D8-2); ADD D3407-9 (ZN A6-7); ADD SHEET 6.	NO	17.05.10
E	ADD D3407-045 (ZN B2-1, D8-1); ADD D3407-7 (ZN B6-5); REVISED NOTE 6 TO ADD IDENTIFICATION (ZN A5-1); REASON: PRODUCTION FACILITY	PH	08.07.23
D	D3407-1/3 SLOT WAS ROUND NOW FLAT FOR ASSEMBLY WITH D3407-5 (ZN C2-3, C2-3); D3407-5 WAS ROUND NOW FLAT ON ONE END FOR ASSEMBLY WITH D3407-1/3 (ZN B6-4); REASON: PRODUCTION FACILITY	PH	08.04.07
C	-1/3 LONGER FOR FIT W/WASHER	CP	05.09.09
B	UPDATE DIAMETER, THREAD CLASS ADDED	CP	05.06.17
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE USA, INC.	
DRAWN	NO	EUGENE, OR	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D3407	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		TOW RING	NTS
DATE	17.05.10	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.	

WORK IN PROGRESS

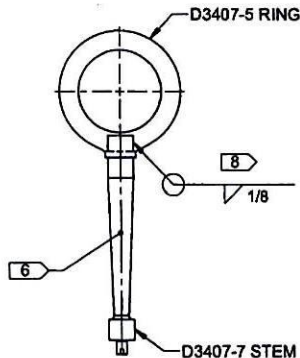
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	X			D3407-043	TOW RING
		X		D3407-045	TOW RING
			X	D3407-047	TOW RING
1				D3407-1	STEM
	1			D3407-3	STEM
1	1	1	1	D3407-5	RING
		1		D3407-7	STEM
			1	D3407-9	STEM



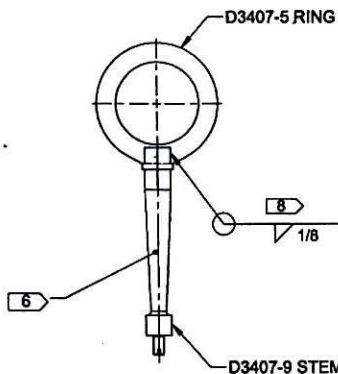
D3407-041 TOW RING



D3407-043 TOW RING



D3407-045 TOW RING



D3407-047 TOW RING

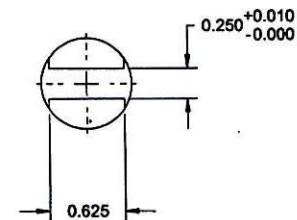
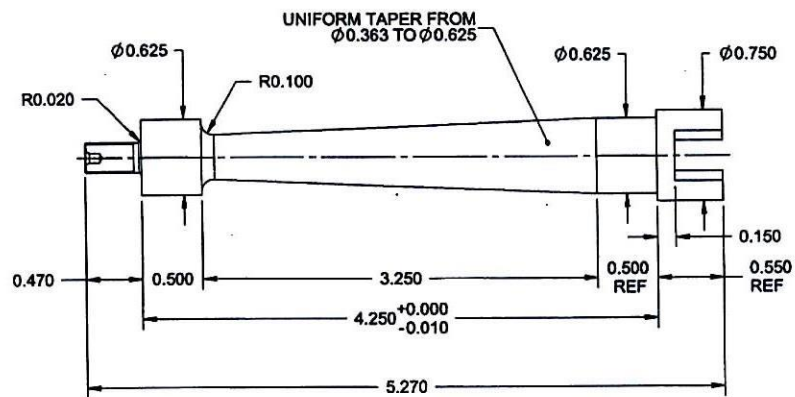
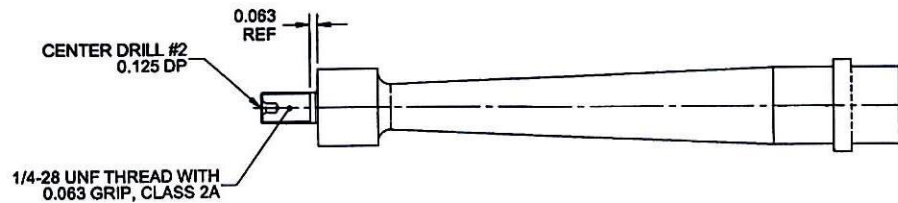
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: MASK THREADS PRIOR TO POWDER COAT
POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044, 6.1
- 7) WEIGHT: D3407-041 - 0.60 lbs, D3407-043 - 0.53 lbs, D3407-045 - 0.61 lbs, D3407-047 - 0.58 lbs
- 8) WELD PER DART QSI 004 ON ALL EDGES BETWEEN STEM AND RING

RELEASED
2017-10-31
EW 17-728

APPROVED

G	REVISED NOTE 1 ON SHEET 4 AND SHEET 6 TO SPECIFY MATERIAL CONDITION	NO	17.09.07
F	ADD D3407-047 (ZN B8-2, D8-2); ADD D3407-9 (ZN A6-7); ADD SHEET 8.	NO	17.05.10
E	ADD D3407-045 (ZN B2-1, D8-1); ADD D3407-7 (ZN B6-5); REVISED NOTE 8 TO ADD IDENTIFICATION (ZN A5-1); REASON: PRODUCTION FACILITY	PH	08.07.23
D	D3407-1/3 SLOT WAS ROUND NOW FLAT FOR ASSEMBLY WITH D3407-5 (ZN C2-2, C2-3); D3407-5 WAS ROUND NOW FLAT ON ONE END FOR ASSEMBLY WITH D3407-1/3 (ZN B6-4); REASON: PRODUCTION FACILITY	PH	08.04.07
C	-1/3 LONGER FOR FIT W/WASHER	CP	05.09.09
B	UPDATE DIAMETER, THREAD CLASS ADDED	CP	05.06.17
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	NO		
CHECKED	CP	DRAWING NO.	REV. G
MFG. APPR.	DD	D3407	SHEET 1 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	TOW RING	NTS
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D3407-1 STEM

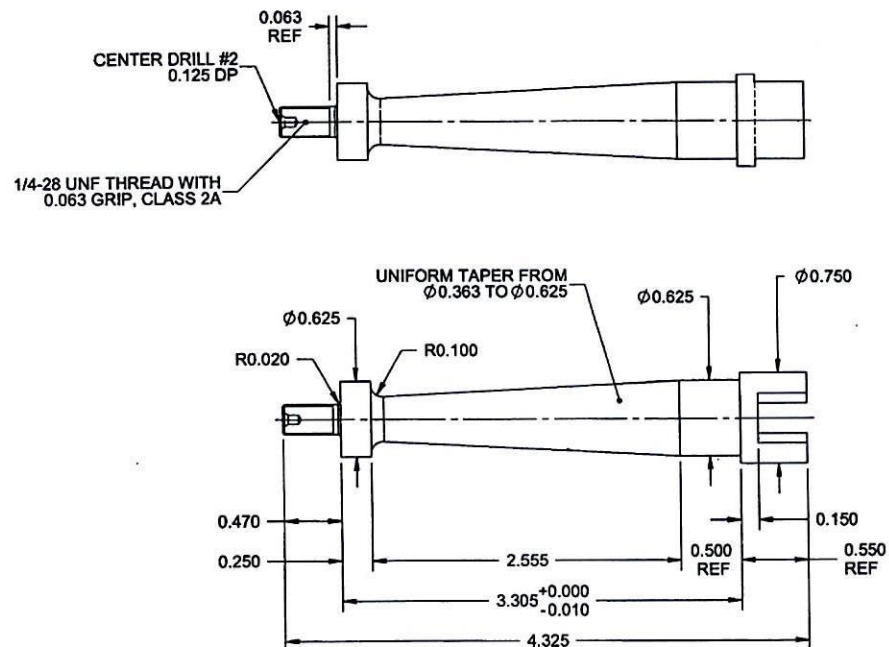
NOTES:

- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643
REF. DART SPEC M17-4-R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.33 lbs

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D3407-3 STEM

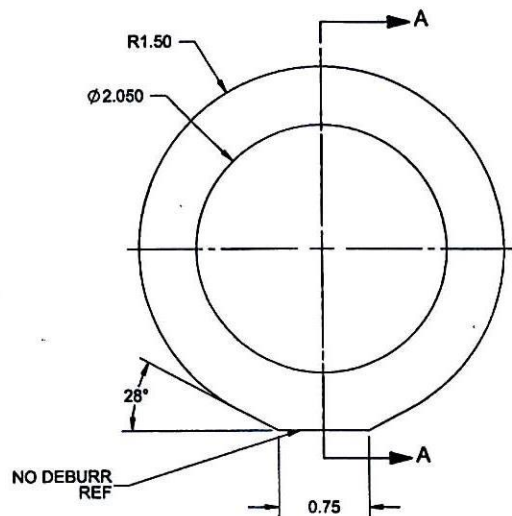
NOTES:

- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643
REF. DART SPEC M17-4-R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.27 lbs

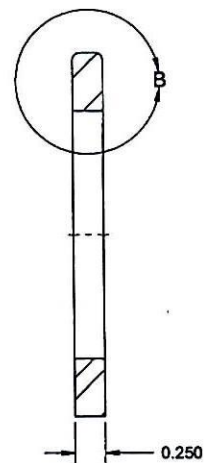
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2017-10-31

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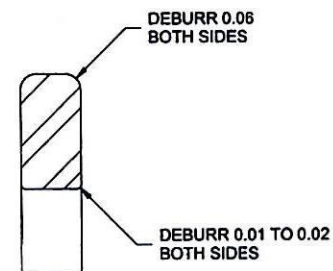
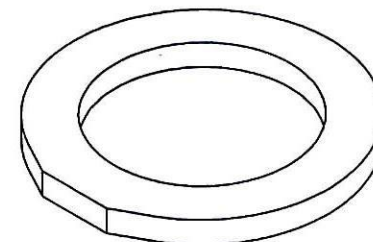
DESIGN	CP	DART AEROSPACE USA, INC.	
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CHECKED	CP	DRAWING NO.	REV. G
MFG. APPR.	DD	D3407	SHEET 3 OF 6
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DE APPR.	DS	TOW RING	NTS
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D3407-5 RING



SECTION A-A



**DETAIL B
SCALE 2X**

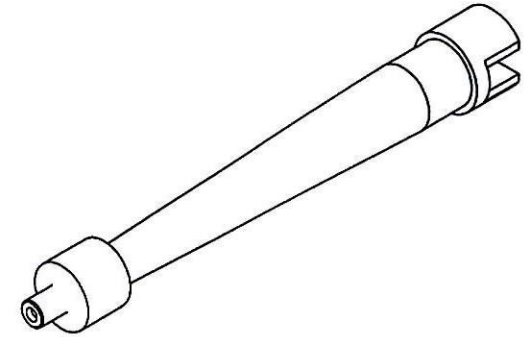
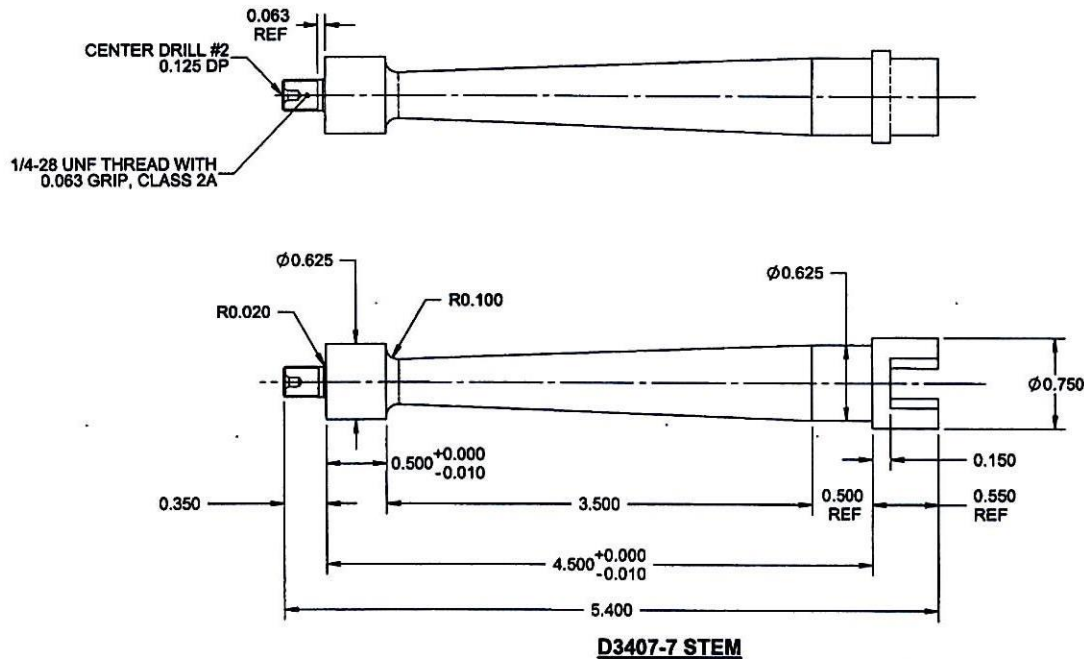
NOTES:

- 1) MATERIAL: 17-4 PH SS BAR PER AMS 5604/5643, H900 CONDITION
MINIMUM ULTIMATE TENSILE STRENGTH = 190 KSI
MINIMUM YIELD TENSILE STRENGTH = 170 KS
REF. DART SPEC M17-4-H900-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.27 lbs

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CHECKED	CP	DRAWING NO.	REV. G
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APPROVED	WM	TITLE	SCALE
DE APPR.	DS	TOW RING	NTS
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NOTES:

- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643
REF. DART SPEC M17-4-R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.34 lbs

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2017-10-31

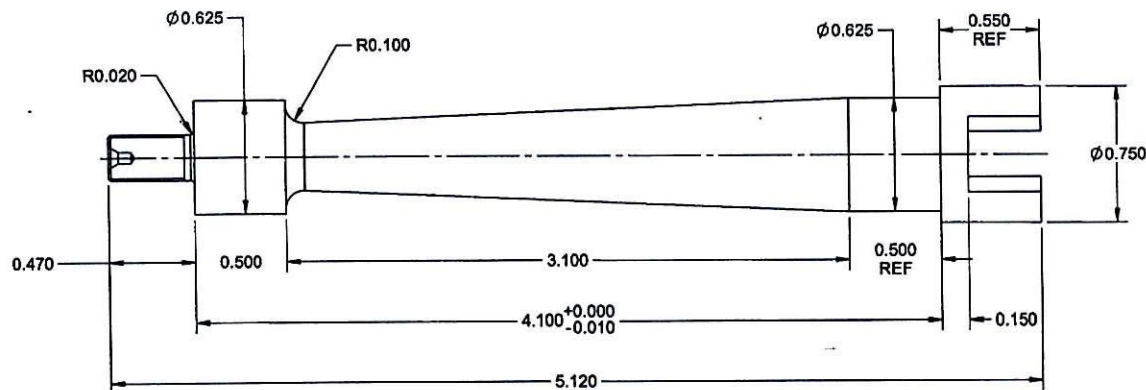
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CHECKED	CP	DRAWING NO.	REV. G
MFG. APPR.	DD	D3407	SHEET 5 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	TOW RING	NTS
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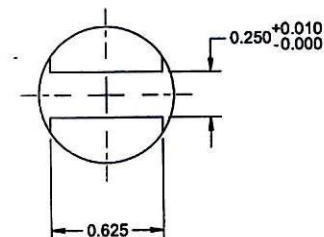
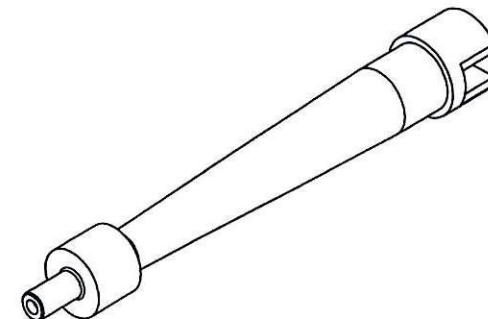
0.063
REF

CENTER DRILL #2
0.125 DP

1/4-28 UNF THREAD WITH
0.063 GRIP, CLASS 2A



D3407-9 STEM



NOTES:

- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643, H900 CONDITION
MINIMUM ULTIMATE TENSILE STRENGTH = 190 KSI
MINIMUM YIELD TENSILE STRENGTH = 170 KS
REF. DART SPEC M17-4-H900-R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.31 lbs

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2017-10-31

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DESIGN	CP	DART AEROSPACE USA, INC.	
DRAWN	NO	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. G
MFG. APPR.	DD	D3407	SHEET 6 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	TOW RING	NTS
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